

**IN THE  
UNITED STATES  
PATENT AND TRADEMARK OFFICE**

**IN RE APPLICATION OF:** Tomazic

**CASE:** 001263CO01

PRELIMINARY  
AMENDMENT

**SERIAL NO.:** To be assigned

**FILED ON:** To be assigned

**FOR:** RECOMBINATOR FOR THE  
RE-ACIDIFICATION OF AN  
ELECTROLYTE STREAM IN A  
FLOWING ELECTROLYTE  
ZINC-BROMINE BATTERY

ASSISTANT COMMISSIONER  
FOR PATENTS  
Washington DC 20231

**ATTENTION OF:**  
Not yet assigned  
**EXAMINER:**  
Not yet assigned

Dear Sir:

If any charges or fees must be paid in connection with the following communication, they may be paid out of our Deposit Account No. 50-0545.

Please enter the foregoing preliminary amendment **PRIOR** to calculation of filing fees and substantive examination of the claims.

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**IN THE CLAIMS AMEND**

19. A method for re-acidifying an electrolyte in a flowing electrolyte zinc-bromine battery, comprising the steps of:

- introducing an electrolyte stream from the zinc-bromine battery into a reaction chamber, wherein the electrolyte stream at least partially comprises aqueous bromine and hydrogen;
- reacting the bromine with the hydrogen to create a reaction product;
- reintegrating the reaction product with at least one of an electrolyte stream or an electrolyte reservoir of the zinc-bromine battery for re-acidification of same.

**REMARKS**

The present application is a continuation application of Serial No. 09/577,996, filed on October 3, 2000. The present application contains exactly the same claims and specification as were originally filed with the parent application. In the parent application, the Examiner cited Putt, U.S. Patent No. 4,343,868 as anticipating the application under 35 U.S.C. §102(b).

In the remarks, the Examiner stated that the cited application comprises an electrolysis cell that is equivalent to the parent application's (and, in turn, the present continuation's) claimed Recombinator Device. The Examiner stated that the electrolysis cell has a housing, a positive internal chamber section and a negative internal chamber section that are separated by a cation-exchange membrane, which the Examiner calls a catalyst.

Although Putt '868 does disclose an electrolysis cell having two internal chamber sections separated by a membrane, such a membrane is not a catalyst. A catalyst is a substance, such as an enzyme, that allows a reaction to proceed at a faster rate or under different conditions than otherwise possible. "Catalyst." Webster's Dictionary Online. 18 Oct. 2001, <http://www.webster.com>. The

membrane described in Putt '868 is disclosed as being designed to pass ions, specifically hydrogen ions, but not liquids or oxygen gas. (See Col. 3, lines 28-31). Thus, the membrane does not promote the reaction of hydrogen and bromine ions, but acts as a barrier that allows only some materials to pass through.

The function of the membrane is essential to the operation of the device disclosed in Putt '868 because of how hydrogen is reintroduced to the zinc-bromine battery system. Putt '868 discloses using a separate electrolysis system to break a water solution down into its component elements, hydrogen and oxygen. This electrolysis system is located outside of and apart from the zinc-bromine battery system, only contacting that system in order to pass the hydrogen it creates across the membrane and into the electrolyte stream of the zinc bromine battery system. Thereafter, once the stream is recycled into the zinc-bromine battery system, the hydrogen reacts with the bromine naturally to form hydrogen bromide. Thus, the system disclosed in the cited application receives its hydrogen from an outside source, and not from the battery itself.

This disclosure is starkly different from the structure disclosed and claimed in independent claims 1, 18, and 19 of the present application. Indeed, each of such independent claims specifically require that the Recombinator of the present application includes “means for receiving hydrogen **from the zinc-bromine battery**” (or an equivalent step relative to the amended method claim 19). Thus, since Putt '868 receives hydrogen from an outside source, namely an electrolysis cell, it does not teach nor does it suggest receiving hydrogen from the zinc-bromine battery itself. Additionally, as the entire Putt '868 reference is directed towards the incorporation of hydrogen from an outside source, the use of the zinc-bromine battery as an internal source of hydrogen would frustrate the purpose of that invention. Therefore, the Putt '868 reference does not anticipate nor obviate the present application, and should not stand as a bar to allowance.

Further, and inasmuch as the independent claims should now be deemed allowable, it is respectfully submitted that all of the dependent claims should likewise be deemed allowable.

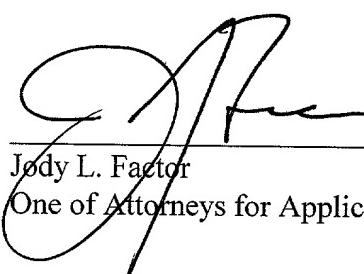
In light of the above, Applicant submits that the present application is patentably distinct from the patents cited in the prosecution of the parent application. Inasmuch as such patents represent the sole sources of rejections for the parent application, Applicant submits that the present application is now in condition for allowance at this time.

Should anything further be required, a telephone call to the undersigned, at (312) 226-1818, is respectfully invited.

Respectfully submitted,

FACTOR & PARTNERS, LLC

Dated: October 29, 2001

  
Jody L. Factor  
One of Attorneys for Applicant

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on October 29, 2001.

Jody L. Factor



**AMENDED CLAIMS WITH MARKINGS TO SHOW CHANGES**

19. (Once Amended) A method for re-acidifying an electrolyte in a flowing electrolyte zinc-bromine battery, comprising the steps of:

- introducing an electrolyte stream from the zinc-bromine battery into a reaction chamber,  
wherein the electrolyte stream at least partially comprises [comprising] aqueous bromine and hydrogen [into a reaction chamber];
- reacting the bromine with the hydrogen to create a reaction product;
- reintegrating the reaction product with at least one of an electrolyte stream or an electrolyte reservoir of the zinc-bromine battery for re-acidification of same.